

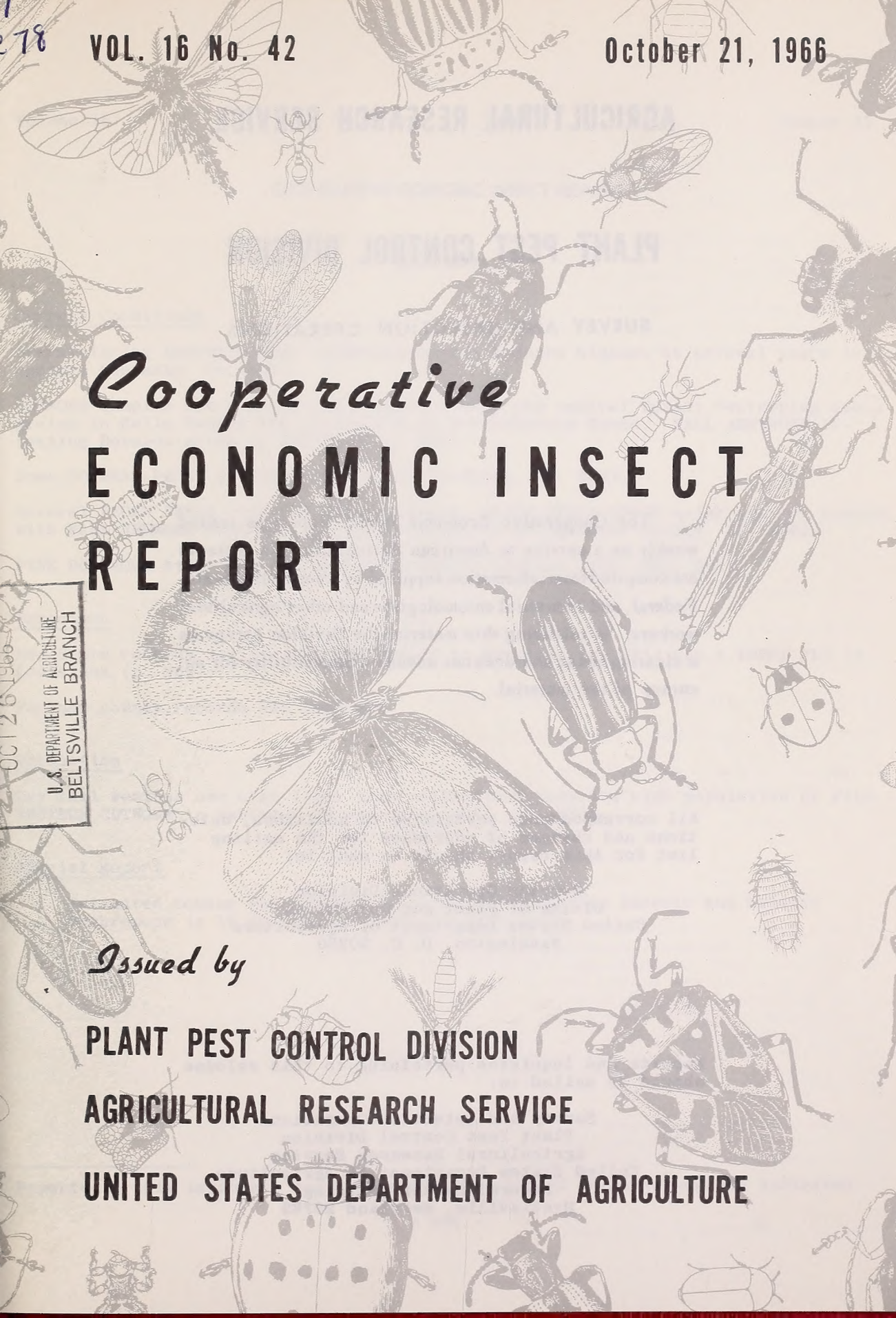
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

278

VOL. 16 No. 42

October 21, 1966



Cooperative **ECONOMIC INSECT REPORT**

OCT 26 1966
U.S. DEPARTMENT OF AGRICULTURE
BELTSVILLE BRANCH

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

Service Operations Division
Office of Plant and Operations
United States Department of Agriculture
Washington, D. C. 20250

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

Overwintering EUROPEAN CORN BORER population appears highest in several years in central Nebraska. (p. 987).

CUTWORM complex heavy in pastures in northeast and central Texas; destroying small grains in Falls County and increasing in southeastern Texas. FALL ARMYWORM infesting Bermuda grass in Florida. (p. 987).

Some SOYBEAN PESTS increasing in South Carolina. (p. 989).

Several PECAN PESTS continue high in Texas; BLACK PECAN APHID major pest of season, with FALL WEBWORM heaviest in several years in Nacogdoches County. (p. 990).

PINK BOLLWORM situation in New Mexico and California. (pp. 993, 994).

Detection

New State records include two PIT SCALES in Maryland (p. 991) and a LOUSE FLY in Louisiana (p. 993).

For new county records see page 994.

Prediction

Dry fall weather and high light trap collections indicate high population of PALE WESTERN CUTWORM in Nebraska in spring of 1967. (p. 988).

Special Report

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods in 16 States for 1965. (pp.997-1007).

Reports in this issue are for week ending October 14 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....	987
Insects Affecting	
Cörn, Sorghum, Sugarcane.....	987
Small Grains.....	988
Turf, Pastures, Rangeland.....	988
Forage Legumes.....	988
Soybeans.....	989
Peanuts.....	989
Cotton.....	989
Sugarbeets.....	990
Potatoes, Tomatoes, Peppers.....	990
Beans and Peas.....	990
Deciduous Fruits and Nuts.....	990
Citrus.....	991
Small Fruits.....	991
Ornamentals.....	991
Forest and Shade Trees.....	992
Man and Animals.....	992
Beneficial Insects.....	993
Federal and State Plant Protection Programs.....	993
Insect Detection.....	994
Corrections.....	994
Hawaii Insect Report.....	995
Nomenclatural Change for Fuller Rose Beetle.....	995
Light Trap Collections.....	996
Estimated Losses and Production Costs Attributed to Insects and Related Arthropods in 16 States for 1965.....	997

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-OCTOBER TO MID-NOVEMBER

Weather Bureau's 30-day outlook for mid-October to mid-November calls for temperatures to average above seasonal normals over most areas from the Rockies to the Appalachians and also over the north Pacific coast. Below normal averages are called for along the middle and north Atlantic coast as well as in California, while near normal temperatures are indicated for unspecified areas. Precipitation is expected to exceed normal over the west coast States and the western plateau. Subnormal totals are called for east of the Continental Divide except for near normal in the northern Plains, the upper Mississippi Valley and the south Atlantic coast and near to above normal in portions of the southern Plains. Elsewhere near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price \$5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - TEXAS - Larvae moderate to heavy on grass pastures in Stephens County; moderate on several Bermuda grass pastures near Sulphur Springs, Hopkins County. (Blackburn, Herschler).

CORN EARWORM (Heliothis zea) - MARYLAND - Pod damage light to medium on late soybeans in Dorchester County. (U. Md., Ent. Dept.). SOUTH CAROLINA - Increasing on soybeans in Charleston County, decreasing in Hampton and Florence Counties. (Thomas). OKLAHOMA - Heavy in late sweet corn in Mayes County. (Okla. Coop. Sur.). COLORADO - Up to 65 percent of harvested corn damaged in Mesa County. (Hantsbarger). CALIFORNIA - Larvae medium on corn at Sanger, Fresno County; damage noted in corn being harvested. Medium in carnation plantings in Encinitas, San Diego County. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Ranged 0.5-8 per linear foot on wheat in Beaver, Texas and Cimarron Counties. (Okla. Coop. Sur.). CALIFORNIA - Light to medium in corn at North Sacramento, Sacramento County. (Cal. Coop. Rpt.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Single specimen observed in wheat in Guymon area of Texas County. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Averaged 3-10 per sweep; few oviparae noted but no males as yet. (Wis. Ins. Sur.). OKLAHOMA - Very light, 1-11 per 10 sweeps on alfalfa in Texas and Cimarron Counties. (Okla. Coop. Sur.). COLORADO - Trace numbers in Fort Collins area. (Simpson). NEW MEXICO - Generally light in alfalfa fields throughout State. (N. M. Coop. Rpt.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Few adults and nymphs present in marginal areas of alfalfa. (Wis. Ins. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH CAROLINA - Collected in Aiken County; all stalks contained at least 1 borer. Corn beginning to lodge. (Rogers). MISSOURI - Ranged 77.6-96 percent infestation and 203.6-556 borers per 100 plants in 4 northwest counties. (Munson). NEBRASKA - Populations in central area of State appear to be highest in several years. (Rhine). SOUTH DAKOTA - Fall survey indicates low population in south central area. Increasing in 3 southeastern counties. (Jones).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ALABAMA - Heavy lodging of corn occurring throughout Marion County due to girdling by overwintering generation. (Price).

SUGARCANE BORER (Diatraea saccharalis) - TEXAS - Larvae moderate in field of Hegari grain sorghum near Knippa of Uvalde County. (Tapscott).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Few D. longicornis adults still present. Severely lodged 80 percent of corn in field near Arlington. Picking operations reduced to less than 1 m.p.h. and one direction. At 3 locations in field, 44, 32, and 4 percent of ears missed. (Wis. Ins. Sur.). SOUTH DAKOTA - Adults, less than two per stalk; associated with green stalks. D. virgifera composed 80 percent of population. (Jones).

BUMBLE FLOWER BEETLE (Euphoria inda) - IDAHO - Adults damaging corn at Orofino, Clearwater County, necessitating controls. (Fitzsimmons, Oct. 3).

RICE WEEVIL (Sitophilus oryzae) - ALABAMA - Heavily infesting Morgan County corn previously damaged by corn earworm. (Rutledge).

SORGHUM MIDGE (Contarinia sorghicola) - CALIFORNIA - Light damage to milo plantings in southern Fresno County. Loss apparent at harvest. (Cal. Coop. Rpt.).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Increasing, but still light to moderate on small grains and Bermuda grass pastures in northeast and central areas; light populations appearing in southeastern portion of State. (Sherrill et al.). ALABAMA - Larvae seriously damaging small grains in Morgan County. (Rutledge).

CHINCH BUG (Blissus leucopterus) - TEXAS - Very heavy, widespread infestations noted on small grains planted on former sorghum land in Milam County. (Moore).

CUTWORMS (Agrotis spp.) - TEXAS - A. ipsilon heavy in 1,500-2,000 acres of wheat and other small grain fields in Falls County. Considerable damage inflicted to several fields, necessitating replanting of some and spot planting in others. Populations intermingled with fall armyworm. (Criswell). NEBRASKA - Dry fall weather and high light trap collections indicate higher populations of A. orthogonia next spring. (Pruess).

APHIDS - WISCONSIN - Macrosiphum avenae alates and apterae averaged 6 per 100 sweeps in rye near Arlington. (Wis. Ins. Sur.). OKLAHOMA - Occasional winged adults of M. avenae noted in wheat in Texas County. Rhopalosiphum padi averaged 2 per linear foot on wheat in Goodwell area of Texas County. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A BILLBUG (Sphenophorus venatus vestitus) - KANSAS - Reported infesting old zoysia grass in Johnson and Sedgwick Counties in CEIR 16(41):972. This new record for Sedgwick County. (Simpson).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Larvae infesting Bermuda grass in Bartow, Polk County. (Schmidt).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Heavy on Coastal Bermuda grass in Chambers County. (Stewart et al.).

FALSE CHINCH BUG (Nysius ericae) - IDAHO - Nymphs nuisance on lawns at Lewiston, Nez Perce County. (Hulbert, Saxton, Oct. 3).

A SNAIL (Vallonia pulchella) - CALIFORNIA - Heavy in lawn and turf at Carmel, Monterey County. (Banks).

FORAGE LEGUMES

PEA APHID (Acyrtosiphon pisum) - WASHINGTON - All stages damaging alfalfa in Royal City area near Quincy, Grant County. (Halfhill, Oct. 10). NEVADA - Ranged 5-15 per sweep in Pahranaagat Valley and Panaca, Lincoln County, alfalfa hay fields. (Bechtel, Zoller). WYOMING - Low in alfalfa in Big Horn, Park and Washakie Counties. (Marks). NEW MEXICO - Light on alfalfa at La Plata and Farmington, San Juan County; medium to heavy in Chaves and Eddy Counties. Controls underway. (Heninger, Mathews). OKLAHOMA - Active on alfalfa in Texas and Cimarron Counties; 35-45 per 10 sweeps. (Okla. Coop. Sur.). WISCONSIN - Increase continues in alfalfa; over 200 per sweep present in several fields. Beneficial insects scarce. (Wis. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Ranged 3-4 per 10 sweeps on alfalfa in Payne, Texas, and Cimarron Counties. Lygus sp. ranged up to 6 per 10 sweeps in panhandle area. (Okla. Coop. Sur.).

LYGUS BUGS (*Lygus* spp.) - WYOMING - Adults 4-6 per 10 sweeps in alfalfa in Big Horn, Park and Washakie Counties. (Marks).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - OKLAHOMA - Averaged 25 per 10 sweeps in Payne County alfalfa; very light in panhandle area. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (*Colias eurytheme*) - NEW MEXICO - Heavy on alfalfa in Chaves County; some fields require controls. Lighter over rest of State. (Mathews).

ALFALFA WEBWORM (*Loxostege commixtalis*) - WISCONSIN - Larvae persist in many alfalfa fields; 1 per sweep in some instances. (Wis. Ins. Sur.).

ALFALFA WEEVIL (*Hypera postica*) - NEVADA - Adults 0-8, larvae 0-4 per 100 sweeps in hay fields in Hiko, Lincoln County, where adults, larvae, pupae and damage heavy at this time in 1965. (Bechtel, Zoller). COLORADO - Adults entering hibernation in Larimer County untreated alfalfa. (Simpson).

GREEN JUNE BEETLE (*Cotinis nitida*) - MISSOURI - Larvae causing soil to be loose and extremely dry in fall-seeded alfalfa and small grain in southwest and south central areas. Plants dying in these fields. (Munson).

SOYBEANS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - SOUTH CAROLINA - Increasing on soybeans in Hampton and Charleston Counties, decreasing in Williamsburg County. (Thomas). ALABAMA - Heavy buildup occurring on 100-acre soybean planting near Atmore, Escambia County. (Lemons et al.).

STINK BUGS - TEXAS - *Nezara viridula* heavy in 180 acres of cowpeas and 200 acres of soybeans in Wharton County. (Smith). KANSAS - *Acrosternum hilare* adults and nymphs 3-4 per 10 feet of row on outside rows in Cherokee County. (Wilde).

GREEN CLOVERWORM (*Plathypena scabra*) - SOUTH CAROLINA - Increasing on soybeans in Florence and Charleston Counties, decreasing in Hampton County. (Thomas).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - SOUTH CAROLINA - Increasing on soybeans in Hampton and Charleston Counties, decreasing in Florence County. (Thomas).

FIELD CRICKETS - ARKANSAS - Damaging soybeans in Desha County. Damage resembles bollworm feeding except for rough edges left on pods. Feeding heaviest during past few weeks on nearly mature soybeans. (Boyer).

PEANUTS

BURROWING STINK BUGS - ALABAMA - Previously reported damaging peanuts in CEIR 16(40):959, CEIR 16(39):937, CEIR 16(38):919 and CEIR 16(37):903. Determined as *Pangaeus bilineatus* and *Tominotus communis* by R. D. Froeschner. *P. bilineatus* dominant species. (Ledbetter et al.).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - ARKANSAS - Additional adults expected; black-eyed pupae observed in bolls in Desha County. (Boyer).

STINK BUGS - NEW MEXICO - Damage to cotton lint extensive in Eddy and Chaves Counties. Some damage noted in other cotton-growing areas of State. (Mathews).

SUGARBEETS

BEET WEBWORM (Loxostege sticticalis) - CALIFORNIA - Larvae heavy in sugarbeets in Buttonwillow, Kern County. (Black).

POTATOES, TOMATOES, PEPPERS

CABBAGE LOOPER (Trichoplusia ni) - IDAHO - Larvae of this and western yellow-striped armyworm defoliated potatoes in Nampa, Parma and Drylake areas of Canyon County. Populations abundant and general over area. (Homan, Sept. 20).

GREEN PEACH APHID (Myzus persicae) - TEXAS - Heavy on bell peppers in Moore County. Controls unsatisfactory. (Rummel).

POTATO APHID (Macrosiphum euphorbiae) - CALIFORNIA - Adults heavy on tomato plants in Salinas, Monterey County. (Cal. Coop. Rpt.).

A LEAF MINER FLY (Liriomyza munda) - CALIFORNIA - Larvae medium in pear tomatoes in Corona, Riverside County. (Cal. Coop. Rpt.).

BEANS AND PEAS

WESTERN STRIPED CUCUMBER BEETLE (Acalymma trivittata) - CALIFORNIA - Probably this species heavy on foliage and fruit of beans and pumpkins in Halfmoon Bay, San Mateo County. (Cal. Coop. Rpt.).

BEAN LEAF SKELETONIZER (Autoplusia egea) - CALIFORNIA - Infesting beans in Salinas, Monterey County. (Cal. Coop. Rpt.).

PEA LEAF MINER (Liriomyza bryoniae) - CALIFORNIA - Medium on peas in Salinas, Monterey County. (Cal. Coop. Rpt.).

DECIDUOUS FRUITS AND NUTS

FALL WEBWORM (Hyphantria cunea) - TEXAS - Heaviest outbreak in several years noted on pecans throughout Nacogdoches County. Light to moderate on pecans and mulberries in El Paso County. Heavy loss of leaves could affect 1967 nut crop. (Rice, Neeb).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Heavy in pecans in Mayes County. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Light to heavy and widespread on pecans in Sterling County; defoliation apparent in isolated cases. Light to moderate in Glasscock County. (Barleman, Neeb)..

PECAN WEEVIL (Curculio caryae) - TEXAS - Heavy in areas of Hamilton County. Pupation and adult emergence underway in early September; approximately 50 percent of population emerged September 18-25. Moderate infestations observed on pecans near San Angelo, Tom Green County. (Hyman, Wagner).

BLACK PECAN APHID (Myzocallis caryaefoliae) - TEXAS - Continues one of major pecan pests of season. Heavy near Palestine, Anderson County; defoliation apparent on many trees. (LaRue).

A LEAF BLOTCH MINER (Cameraria caryaefoliella) - ALABAMA - Larval mining heavy in large pecan orchard at Uriah, Monroe County. (Bagby et al.).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Locally heavy on plum in Dos Palos, Merced County; probably third generation. (Cal. Coop. Rpt.).

PEACH TREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Larvae heavy in peach trees in Perkins area of Payne County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Locally heavy in peach fruit at Atherton, San Mateo County. (Cal. Coop. Rpt.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - WISCONSIN - Oviparae increasing on Prunus spp.; no eggs observed October 11 in western Dane County. Drought and high winds may reduce overwintering potential. (Wis. Ins. Sur.).

CITRUS

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Heavy on citrus trees in Sanger, Fresno County. (Cal. Coop. Rpt.).

AN ARMORED SCALE (Unaspis citri) - FLORIDA - All stages severe on stems and bark of 20 orange plants of 2,000 in nursery at Apopka, Orange County. (Musgrove, Oct. 3).

YELLOW SCALE (Aonidiella citrina) - FLORIDA - All stages infesting leaves on 75 percent of citrus plants in Clermont nursery, Lake County. Buildup on nursery stock general in area. (Henderson).

A STINK BUG (Loxa sp.) - FLORIDA - Adults moderate on 90 percent of sweet orange at Fort Lonesome, Hillsborough County; "stinging" fruit and causing them to drop. (Vaughn).

SMALL FRUITS

DRIED FRUIT BEETLE (Carpophilus hemipterus) - CALIFORNIA - Adults medium in 10 acres of grapes infected with bunch rot at Fairfield, Solano County. (Cal. Coop. Rpt.).

WHITE GRUBS (Phyllophaga spp.) - KANSAS - Killing strawberry plants in Greenwood County. Controls applied. (Simpson).

ORNAMENTALS

VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) - OKLAHOMA - Heavy on many ornamental oaks in Payne County. (Okla. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - FLORIDA - Larvae infesting blooms of gladiolus at nursery in Marianna, Jackson County. (Albritton). CALIFORNIA - Medium on carnation plantings in Encinitas, San Diego County. (Cal. Coop. Rpt.).

A PYRAUSTID MOTH (Undulambia polystichalis) - FLORIDA - Larvae infesting 1 leather-leaf fern per square yard in two ferneries at Seville and Pierson, Volusia County. (Roberts).

PIT SCALES - MARYLAND - Cerococcus kalmiae collected from azalea by C. Werner in spring of 1965 at Cheverly, Prince Georges County. Det. R. F. Wilkey. Lecaniodi-aspis prosopidis collected from mimosa by C. W. McComb, September 23, 1966, at Riviera Beach, Anne Arundel County. Det. R. F. Wilkey. Both are new State records. (McComb). FLORIDA - Cerococcus deklei adults moderate on stems of hibiscus plants in a nursery in Opalocka, Dade County. (Dillon).

GREEN SHIELD SCALE (Pulvinaria psidii) - FLORIDA - All stages severe on stems and leaves of ixora plants at store in Eau Gallie, Brevard County. Sixty plants placed under quarantine. (Levan).

ARMORED SCALES - FLORIDA - Phenacaspis cockerelli moderate on European fan palm and bird-of-paradise at nursery in Oviedo, Seminole County. Infesting sagopalm at nursery in Orlando, Orange County. Chrysomphalus aonidum severe on 95 percent of 500 queenpalm seedlings at nursery in Oviedo. (Kipp, Crews).

COTTONY-CUSHION SCALE (Icerya purchasi) - FLORIDA - All stages infesting stems and leaves of pittosporum plants in a store at Eau Gallie, Brevard County. Plants placed under quarantine. (Levan).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Moderate numbers appearing sporadically on pine trees throughout Houston; large number of trees killed in few concentrated areas. (Cooper).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - Mostly larvae, with some pupae and adults, present in Siberian elm in Alamo, Lincoln County. This new county record. (Bechtel, Zoller). TEXAS - A suspected case of Dutch elm disease negative in Dallas, Dallas County; however, S. multistriatus moderate in several American elm trees. (Milikien et al.).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - Infestations and damage in Tonopah, Nye County, and Panaca, Lincoln County, heavier than in 1965. (Bechtel, Zoller).

POPLAR-AND-WILLOW BORER (Sternochetus lapathi) - WASHINGTON - Moderate adult population damaging willow at Yakima, Yakima County, September 26. (Hutt).

LOCUST BORER (Megacyllene robiniae) - UTAH - Seriously damaging black locust trees in Ogden area, Weber County. (Knowlton).

MEALYBUGS - CALIFORNIA - Phenacoccus gossypii heavy on leaves, limbs and trunks of catalpa trees in Sutter Creek, Amador County. Pseudococcus obscurus medium on mulberry trees in Salinas, Monterey County. (Cal. Coop. Rpt.).

PAINTED MAPLE APHID (Drepanaphis acerifoliae) - ARKANSAS - Populations continue high, with increased numbers of winged forms in Fayetteville area. (Boyer). CALIFORNIA - Medium on maple trees in Arlington, Riverside County. (Cal. Coop. Rpt.).

A SAWFLY (Caliroa lineata) - TEXAS - Larvae heavy on oak trees near Houston, Harris County. (Shores).

MAN AND ANIMALS

AN ASSASSIN BUG (Triatoma gerstaeckeri) - COLORADO - Adults taken in home at Grand Junction, Mesa County. This species known vector of Chagas disease. (Quist, Thatcher).

CAT FLEA (Ctenocephalides felis) - CALIFORNIA - Built up in many areas over State past month. (Cal. Coop. Rpt.).

MOSQUITOES - FLORIDA - Psorophora confinnis general and annoying in suburbs and golf courses at Gainesville, Alachua County. (Mead). LOUISIANA - Aedes sollicitans abundant in Grand Isle area and Culex salinarius showed noticeable increase in Wentwood area of Jefferson Parish. (Stokes). UTAH - Collections in 14 Weber County light traps 50 percent of 10-year average, and 20 percent of 1965 average. (Knowlton).

FACE FLY (Musca autumnalis) - IDAHO - Several adults observed inside building at Plummer, Benewah County. (Raeder, Portman, Sept. 24). UTAH - Annoying horses and cattle in Syracuse area, Davis County, and Plain City area, Weber County. (Knowlton).

HOUSE FLY (Musca domestica) - NEVADA - Adults very heavy in Alamo, Lincoln County, and medium in Tonopah, Nye County. (Bechtel, Zoller).

HORN FLY (Haematobia irritans) - TEXAS - Unusually heavy on untreated cattle and sheep in Crockett and Sterling Counties due to unusually wet weather during summer and fall. (Jacoby, Barleman). OKLAHOMA - Moderate on cattle in Marshall County. (Okla. Coop. Sur.).

HORSE BOT FLY (Gasterophilus intestinalis) - OKLAHOMA - Continues heavy and annoying to horses in Payne County. (Okla. Coop. Sur.).

A LOUSE FLY (Ornithoica confluente) - LOUISIANA - Collected from cattle egret in East Baton Rouge Parish June 28, 1966, by J. E. Farlow and E. C. Burns. Det. by A. Stone. This first State record and first record from cattle egret in this country. (Chapin).

SCREW-WORM (Cochliomyia hominivorax) - Total of 188 cases reported in U. S. October 9-15 as follows: TEXAS - Brooks 3, Dimmit 16, Edwards 4, Kendall 1, Kinney 20, Live Oak 1, Maverick 5, Medina 3, Terrell 5, Tom Green 2, Uvalde 10, Val Verde 19, Brewster 7, Crockett 2, La Salle 1, McCulloch 1, Pecos 1, Starr 3, Zavala 5, Caldwell 1, Coryell 1, Menard 2, Real 1, Reeves 3, Sutton 2, Glasscock 1, Irion 2, Jeff Davis 3, Mason 2, Webb 1, Williamson 1, Llano 2, Duval 4, Hudspeth 1, Taylor 1, Burleson 1, Atascosa 1, Jim Wells 1, Jim Hogg 1, Zapata 1, Karnes 1, Frio 1, Presidio 2, Bastrop 1, Callahan 2, Sterling 1, Kimble 2. NEW MEXICO - Eddy 2, Dona Ana 1, Otero 1, De Baca 1, Hidalgo 1, Grant 2. ARIZONA - Yuma 3, Mohave 6, Cochise 1, Maricopa 6, Pima 5, Yavapai 3, Santa Cruz 1. CALIFORNIA - Imperial 2, San Diego 1. Total of 357 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Baja California 2, Territorio sur de Baja California 32, Sonora 106, Chihuahua 121, Coahuila 58, Nuevo Leon 19, Tamaulipas 19. No cases reported from Mexico south of the Barrier Zone. Barrier Zone area where eradication operations underway to prevent establishment of self-sustaining population in U. S. Sterile screw-worm flies released: Texas 49,198,250, New Mexico 5,332,000, Arizona 18,556,000, California 1,716,000, Mexico 55,018,000. (Anim. Health Div.).

BENEFICIAL INSECTS

PUNCTURE-VINE WEEVILS (Microtharus spp.) - CALIFORNIA - M. lareynii and M. lypriformis heavy on puncture-vine areas along railroad tracks in Fullerton, Orange County. (Hawthorne). NEVADA - Larvae, pupae and adults of M. lareynii and M. lypriformis variable in Alamo and Caliente, Lincoln County. M. lareynii appears most effective. (Bechtel, Zoller).

BRACONIDS - WASHINGTON - Aphidius smithi, A. pulcher and Praon simulans adults noted on forage in Royal City area near Quincy, Grant County; averaged 1 for each 4 pea aphids present. Parasite populations variable; up to 3 per sweep. (Half-hill).

FEDERAL&STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - WISCONSIN - Melanoplus femurrubrum females continue to lay eggs; 40 percent still contain eggs; 60 percent of M. differentialis females egg bearing. Incidence of parasitism by nematodes somewhat higher than in prior weeks. (Wis. Ins. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Large populations of small larvae in southern Dona Ana and Eddy County cotton fields. Larvae further north in valleys than previously recorded. (N. M. Coop. Rpt.). CALIFORNIA - Trapping continues in desert cotton-growing areas. Total for season in Imperial, Riverside, San Bernardino and San Diego Counties, 4,068 moths and 1,241 larvae. Quarantine

hearings held past week for invoking Federal quarantine in area. Selected treatment applied in Imperial, Riverside and San Diego Counties. Detection surveys continue negative in San Joaquin Valley. (Cal. Coop. Rpt.).

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Overall numbers apparently continue downward trend. Adults light in Manatee, Pinellas and Martin Counties. (Campbell et al.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - TEXAS - Moderate at Houston nursery, Harris County. (Manning).

INSECT DETECTION

New State Records

A PIT SCALE (Cerococcus kalmiae) - MARYLAND - Collected by C. Werner at Cheverly, Prince Georges County, Spring 1965. Det. by R. F. Wilkey. (p. 991).

A PIT SCALE (Lecaniodiaspis prosopidis) - MARYLAND - Collected by C. W. McComb at Riviera Beach, Anne Arundel County, September 23, 1966. Det. by R. F. Wilkey. (p. 991).

A LOUSE FLY (Ornithoica confluenta) - LOUISIANA - Collected by J. E. Farlow and E. C. Burns in East Baton Rouge Parish June 28, 1966. (p. 993).

New County Records

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - Collected at Alamo in Lincoln County. (p. 992).

A BILLBUG (Sphenophorus venatus vestitus) - KANSAS - Collected from zoysia grass in Sedgwick County. (p. 988).

CORRECTIONS

CEIR 16(40):962 - AZALEA CATERPILLAR (Dantana major) should read (Datana major).

CEIR 16(40):962 - ROUNDHEADED WOOD BORERS - VIRGINIA - Obera tripunctata should read Oberea tripunctata.

CEIR 16(40):965 - CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Should read: "...; adults taken in traps in Manatee County..."

CEIR 16(40):966 - JAPANESE BEETLE (Popilla japonica) should read (Popillia japonica).

HAWAII INSECT REPORT

Insects of Regional Significance - LEAF MINER FLIES (Liriomyza spp.) light on lettuce (older leaves only), light on tomatoes and moderately heavy on pole beans in Omaopio; heavy on tomatoes in Pulehu; light on tomatoes and pole beans in Waiakoa; all on Maui. Light to medium on pole beans, peas and cucumbers in Pupukea, Oahu. (Miyahira, Takishita, Higa). SOUTHERN GREEN STINK BUG (Nezara viridula var. smaragdula) light but extensive on cowpeas in Lihue, Koloa, and Waimea districts, Kauai. Parasitism by a tachina fly (Trichopoda sp.) estimated at 20 percent. (Haw. Ins. Rpt.).

Turf - All stages of BERMUDAGRASS MITE (Aceria neocynodonis) medium in Honolulu (Kapahulu), Pearl City, Waipahu, Nanakuli and Waianae, Oahu. This mite widespread on island, causing moderate damage to common Bermuda grass. (Haramoto).

General Vegetables - DIAMONDBACK MOTH (Plutella maculipennis) larvae light on watercress in Waiawa (between Pearl City and Waipahu), Oahu. Overall damage light but extensive. Adults 5 per sweep. (Higa). All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) light on eggplant in Lualualei, Oahu. (Funasaki). IMPORTED CABBAGEWORM (Pieris rapae) caused heavy damage to cauliflower in Pulehu, Maui. All stages noted. (Miyahira).

Ornamentals - COTTONY-CUSHION SCALE (Icerya purchasi) heavy, particularly nymphs, on Fuschia sp. in Pearl City (Pacific Palisades), Oahu. (Shiroma).

Man and Animals - Total of 309 Aedes vexans nocturnus and 6,222 Culex pipiens quinquefasciatus taken in light traps operated by Mosquito Control Branch, Department of Health, on Oahu during September. (Haw. Ins. Rpt.).

Beneficial Insects - A PUNCTURE-VINE STEM WEEVIL (Microtharus lypriformis) heavy on one remaining puncture-vine plant at Sandy Beach, Oahu. Weevils purposely introduced; complete kill expected within thirty days. (Haw. Ins. Rpt.).

A Change of Name for the Fuller Rose Beetle, Pantomorus godmani

(Crotch). (Coleoptera: Curculionidae).

In the Journal of the Entomological Society of Australia (N. S. W.), Vol. 2, 1956, Chadwick published two papers. The first, pp. 10-20, "A Review of Fuller's Rose Weevil (Pantomorus cervinus (Boheman)) (Col., Curculionidae)," is a review of work done on the nomenclature, morphology, anatomy, and world and Australian distribution of this insect. He concludes that Pantomorus cervinus (Boheman) is the correct scientific name and Fuller's rose weevil the correct common name of this widely distributed insect pest. This weevil is listed as Pantomorus godmani (Crotch), the Fuller rose beetle, in the latest "Common Names of Insects Approved by the Entomological Society of America," December 1965. The second paper, pp. 21-34, "A Check List of the Brachyderinae (Col., Curculionidae) "Occurring in Australia," lists all known references to that species.

Rose Ella Warner
Entomology Research Division
ARS, USDA
Washington, D. C.

LIGHT TRAP COLLECTIONS

LIGHT TRAP COLLECTIONS				Temperature, ° F.	Precip- itation, inches	Type of trap	Agrotis jaspis O = noctuid M = noctuid I = blacklight BL = blacklight	Carpocapsa pomonella (codling moth)	Choristoneura aurantivittata (army cutworm)	Estigmene acrea (sawfly)	Pantonia diffusa (sheep head)	Pellia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm)	Loxostege comitella (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege albidula (garbanzo webworm)	Manduca sexta (cottonworm)	Manduca sexta (cottonworm)	Ortalis nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Pseudocystia unipuncta (beet armyworm)	Spodoptera oxigena (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Triphaena ni (cabbage looper)
FLORIDA Gainesville 10/13							8				1	1	1	3									9	1		
GEORGIA Tifton 10/6-12	45-88	2.11	BL									1														
MISSISSIPPI Stoneville 10/7-13	41-89	0.21	2BL	12	1	31								944				1		3	54	45	225	24	12	
NEBRASKA Lincoln 9/23-30 Scotts Bluff Expt. Sta. 9/26-10/2				2										4							3	6				
				4				6						2			1					2				
SOUTH CAROLINA Charleston 10/3-9 Charleston 10/10-16	49-89 48-84	0.01	BL BL	10 6		3 3								24 9							3 1	21 21		4 3	2 1	
TENNESSEE (Counties) Madison 9/27-10/3 Maury 9/27-10/3 Cumberland 9/27-10/3				22 16 8										194 60 124						4 6	4 4	56 40 24		16 8 18		
TEXAS Waco 10/8-14 Brownsville 10/1-7 Brownsville 10/8-14	63-88 63-88	0.64	BL BL 2BL	5 45 268		45 26 190								81 124 327						12 10	22 65 206	39 21 98	17 95 265	50 51 167		
WISCONSIN Madison 10/5-12 Platteville 10/4-11 De Forest 9/27-10/3			BL BL BL	62 57										21 32						5 14		22 47 4				
WYOMING Cheyenne 9/20-26 Laramie 9/17-24				7 3	113 3									3 1						1		17 1				

COOPERATIVE ECONOMIC INSECT REPORT

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS - 1965

Introduction

Insect loss estimates have been published in the Cooperative Economic Insect Report as individual presentations in past years. In an attempt to make the information more useful and more readily available, estimates from the various States have been compiled in a single issue of the report.

The loss data in the following compilation were received from 16 States. The entomologists preparing the estimates, together with the States from which they report, are listed below.

Dale Fullerton	Arizona
W. P. Boyer	Arkansas
L. E. Jenkins	Colorado
Paul P. Burbutis	Delaware
Clarence E. White	Illinois
Ray T. Everly	Indiana
Wallace C. Harding, Jr.	Maryland
Robert Flaskerd	Minnesota
Ray Pratt	Montana
Jon J. Rhine	Nebraska
Gerald L. Nielsen	New Mexico
Don C. Arnold	Oklahoma
M. W. Meisch	Texas
O. W. Isakson	Virginia
Marlin S. Conrad	Wisconsin
William D. Marks	Wyoming

Copies of the compilation were sent to the various States involved for review prior to release. Some suggestions for possible improvement in presentation were made. These suggestions have been incorporated where possible.

Separates of this compilation are available from Survey and Detection Operations.

USDA Coop. Econ. Ins. Rp
16(42): 997-1007, 1966

Crop	State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre	Yield Loss Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Control Cost Acres (1000)	Subtotal (\$1000)	Total Dollar Loss (1000)
CORN (Grain)										
Arizona		Crw, Lcsb, A, Cw	17.0	bu. 4.86	4.0	28.56	3.00	13.0	39.00	67.56
Colorado		Faw, Cew, Rw, Ww	450.0	3.1	98.8	367.70	3.00	126.6	379.90	747.60
Illinois		Si	9,692.0	9.2	2,028.0	19,959.52	3.25	4,733.0	15,384.80	35,344.32
		Cla	"	4.6	454.5	2,235.97	2.25	55.3	124.50	2,360.47
		Faw	"	4.6	34.6	170.05	2.25	21.6	48.72	218.77
		Aw, Gh, Cfb Cb	"	- -	- -	- -	2.25 2.25	56.2 45.2	126.45 101.66	126.45 101.66
Indiana		Cew	4,889.1	0.21	-	-	-	-	-	858.55
		Cla	"	7.10	-	-	-	-	-	38,479.32
		Agm	"	2.30	-	-	-	-	-	1,260.00 *
Maryland		Aw, Cw, Sww	501.0	7.4	115.0	1,067.20	5.00	10.0	50.00	1,117.20
Minnesota		Si, Rw, Cew, Ww	4,428.0	-	300.0	-	2.30	2,600.0	4,600.00	4,600.00
Nebraska		Rw, Ecb, Ce, Scb	4,216.0	10.05	1,000.0	11,460.00	2.65	2,500.0	6,625.00	18,085.00
Wisconsin		Rw, Si	1,637.0	4.56	-	-	2.00	800.0	1,600.00	1,600.00
Wyoming		Wcrw, Faw, Cla	14.0	0.73	0.6	0.55	3.00	0.2	0.66	1.21
See Legend I			Subtotal			35,289.55			29,080.69	104,968.11 *
CORN (Silage)										
Wyoming		Wcrw, Faw, Cla	26.0	0.09	1.6	1.16	3.00	0.8	2.43	3.59
		See Legend I				1.16			2.43	3.59
SWEET CORN										
Minnesota		Ecb, Cw, Cew	91.5	tons -	-	-	3.50	89.6	313.40	313.40
Wisconsin		Ecb, Cew	88.0	4.19	-	-	12.00	16.9	202.60	202.60
See Legend I			Subtotal						516.00	516.00
POPCORN										
Nebraska		Rw, Ecb, Cew Scb & others	24.0	lbs. 460.0	7.0	83.70	2.65	15.0	39.70	123.40
See Legend I			Subtotal			83.70			39.70	123.40

* Indiana losses are not broken down into yield losses or control costs.

Crop	Pest Complex	State	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Dollar Loss (1000)
				Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)	
SORGHUM (Grain)									
Arizona	Lb, Aw, Cew, Fb		165.0	bu.					
				14.00	30.0	525.00	8.00	120.0	960.00
Nebraska	Cla, Cw, Gh, Ww		2,329.0	2.73	250.0	620.00	2.90	250.0	725.00
Oklahoma	Cew, Sm, Sww, Cla		606.0	8.00	227.5	1,274.00	2.68	34.0	91.13
Texas	Sm, Sww, Cb, Cew		5,495.0	13.00	1,000.0	13,780.00	2.00	1,500.0	3,000.00
See Legend I				Subtotal		16,199.00	4,776.13		20,975.13
SORGHUM (Silage)									
Arizona	Aw, Lb, Ww, Cew		19.0	2.40	4.0	134.00	8.00	12.0	96.00
Oklahoma	Cew, Sm, Sww, Cla		296.0	0.44	227.5	550.73	2.68	34.0	91.13
See Legend I				Subtotal		684.73	187.13		871.86

LEGEND I - CORN AND SORGHUM PEST COMPLEX

A - Aphids
 Agm - Angoumois grain moth
 Aw - Armyworms
 Cb - Chinch bugs
 Cew - Corn earworm
 Cfb - Corn flea beetle
 Cla - Corn leaf aphid
 Crw - Corn rootworms
 Cw - Cutworms
 Ecb - European corn borer
 Faw - Fall armyworm
 Fb - Flea beetles
 Gh - Grasshoppers
 Lcsb - Lesser cornstalk borer
 Lb - Lygus bugs

Rw - Rootworms
 Scb - Seed corn beetle
 Sl - Soil insects
 Sm - Sorghum midge
 Sww - Sod webworm
 Wcrw - Western corn rootworm
 Ww - Wireworms

BARLEY				bu.					
Arizona	A, M, Cw, Aw, Ww		169.0	8.76	17.0	747.60	5.00	17.0	350.00
Colorado	Aw, Aga, Ega, Acw		300.0	0.30	22.0	12.63	3.00	44.5	133.46
Wyoming	Gh, Aw, Ega, Gb		121.0	0.83	5.7	4.56	1.50	1.6	2.45
	See Legend II				Subtotal	764.79		485.91	1,250.70
OATS									
Nebraska	Cw, Gh, Gb, Ww		772.0	2.40	75.0	118.50	2.40	10.0	24.00
Wisconsin	A		1,993.0	-	-	-	2.00	8.7	17.43
Wyoming	Gh, Aw, Ega, Gb		102.0	0.48	5.6	1.88	1.50	1.5	2.31
	See Legend II				Subtotal	120.38		43.74	164.12

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Dollar Loss (1000)		
				Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)		Subtotal (\$1000)	
WHEAT											
Arizona		A, M, Ww, Cw, Aw	26.0	bu.	6.44	5.0	50.25	5.00	19.0	95.00	145.25
Arkansas		Aw, Vcw	356.0	-	-	-	-	2.00	53.4	106.80	106.80
Colorado		Pww, Acw, Bwm, Gb	780.0	0.15	2.0	0.09	0.09	3.00	4.0	12.00	12.09
Illinois		Aw	1,603.0	3.55	37.8	181.90	2.25	58.6	131.90	313.80	313.80
Nebraska		Cw, Hf, Gb, Gh	2,805.0	0.40	275.0	143.00	2.45	125.0	305.25	449.25	449.25
Oklahoma		Gb, M, Cw	4,747.0	4.76	772.8	4,891.90	1.77	271.5	408.60	5,300.50	5,300.50
Texas		Gb, Wgm, Bwm, Aw	3,228.0	2.25	140.0	487.20	1.00	130.0	130.00	617.20	617.20
Wyoming		Gh, Bwm	208.0	0.11	4.1	0.58	1.50	3.5	5.31	5.89	5.89
See Legend II				Subtotal		5,754.92	1,195.86				6,950.78
WHEAT, OATS, BARLEY											
Minnesota		Gh, A, Aw	4,411.0	0.42	0.9	0.39	2.00	4.1	8.20	8.59	8.59
See Legend II				Subtotal		0.39	8.20				8.59
RICE											
Arkansas		Rsb, Gh Rww, Gc	430.0 "	- -	- 81.7	- -	2.00 0.75	9.1 348.3	18.30 261.20	18.30 261.20	18.30 261.20
See Legend II				Subtotal		279.50				279.50	279.50
				Total		2,013.21				8,653.69	8,653.69

LEGEND II - SMALL GRAIN AND RICE

A	- Aphids	Ega	- English grain aphid	Pwcw	- Pale western cutworm
Acw	- Army cutworm	Gb	- Greenbug	Rsb	- Rice stink bug
Aga	- Apple grain aphid	Gc	- A grape colaspis	Rww	- Rice water weevil
Aw	- Armyworms	Gh	- Grasshoppers	Vcw	- Variegated cutworm
Bwm	- Brown wheat mite	Hf	- Hessian fly	Wgm	- Winter grain mite
Cw	- Cutworms	M	- Mites	Ww	- Wireworms

Crop	State	Pest Complex	Total Acres Produced	Loss Per Acre	Yield Loss		Subtotal (\$1000)	Control Cost		Total Dollar Loss (1000)
					Per Acre	Nontreated Acres (1000)		Cost Per Acre	Treated Acres (1000)	
ALFALFA (Hay)										
Arizona		Eaw, Ac, A, M	200.0	0.70	tons	85.0	892.50	3.50	90.0	1,207.50
Colorado		Aw, Pa, Sa, Aw	850.0	0.09		387.0	851.50	3.00	130.9	1,207.50
Delaware		Aw, Pa, Tpb, Plh	6.0	2.08		1.0	74.90	6.00	5.0	104.90
Illinois		Plh	1,049.0	0.08		46.2	92.50	3.25	18.5	152.60
		Saa	"	0.28		8.5	59.50	3.25	-	59.50
Maryland		Aw, Pa, Ms, Plh	91.0	0.77		6.0	184.80	5.00	85.0	609.80
Montana		Aw	1,100.0	1.29		310.0	2,266.10	3.00	140.0	2,686.10
New Mexico		Saa, Pa, Aw	175.0	0.04		9.0	8.50	2.60	3.0	16.30
Oklahoma		Pa, Saa, Gh	577.0	10.50		215.0	2,562.68	3.74	96.6	2,923.93
Virginia		Aw, Pa, Ms, Plh	171.0	0.56		17.0	361.80	4.50	154.0	1,054.80
See Legend III						Subtotal	7,354.78		2,704.85	10,059.63
ALFALFA-MIX (Hay)										
Minnesota		Gh, Pa, Cw, Lh	2,454.0	0.03		70.0	37.10	2.00	10.0	57.10
See Legend III						Subtotal	37.10		20.00	57.10
ALFALFA-CLOVER (Hay)										
Illinois		Ms	1,649.0	0.15		7.8	108.60	3.25	10.6	111.60
		Pa	"	0.35		30.2	65.80	3.25	0.9	100.40
		Gh	"	-		-	-	3.25	20.6	66.90
See Legend III						Subtotal	174.40		104.50	278.90
CLOVER (Hay)										
Illinois		Clw	600.0	0.14		1.8	5.80	3.25	4.1	19.20
See Legend III						Subtotal	5.80		13.40	19.20
CLOVER-TIMOTHY (Hay)										
Maryland		A, Ms, Pb, W	212.0	0.23		125.0	862.50	3.25	75.0	1,106.20
See Legend III						Subtotal	862.50		243.70	1,106.20

Crop	Pest Complex	State	Total Acres Produced (1000)	Yield Loss		Control Cost		Total Dollar Loss (1000)		
				Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre		Treated Acres (1000)	Subtotal (\$1000)
HAY										
Nebraska	Gh, Gw, Cw, Saa		4,984.0	0.07	160.0	212.80	2.65	100.0	265.00	477.80
Wisconsin	Pa, Plh, Gh, Ms		4,900.0	0.06	-	-	2.00	100.0	200.00	200.00
See Legend III				Subtotal		212.80			465.00	677.80
ALFALFA (Seed)										
Arizona	Cw, Lh, Tcah		16.0	0.45	3.0	40.50	9.00	13.0	177.00	157.50
Nebraska	Pb, Lh, Gh, A		49.0	0.07	15.0	27.30	2.60	25.0	65.00	92.30
Wyoming	Alw, Pa, Gh		3.0	0.04	1.4	1.80	8.00	1.6	12.50	14.30
See Legend III				Subtotal		69.60			194.50	264.10
				Total		8,716.98			3,745.95	12,462.93

LEGEND III - FORAGE CROP PEST COMPLEX

A - Aphids
Ac - Alfalfa caterpillar
Aw - Armyworms
Alw - Alfalfa weevil
Clw - Clover leaf weevil
Cw - Cutworms

Eaw - Egyptian alfalfa weevil
Gh - Grasshoppers
Gw - Garden webworms
Lh - Leafhoppers
M - Mites
Ms - Meadow spittlebug
Pa - Pea aphid

Pb - Plant bugs
Plh - Potato leafhopper
Saa - Spotted alfalfa aphid
Tcah - Three-cornered alfalfa hopper
Tpb - Tarnished plant bug
W - Weevils

SOYBEANS								
Arkansas	Blw, Gcw, Sb, Tcah		3,219.0	5.30	137.3	2.20	664.6	3,281.80
Maryland	T, Sm, Blb, Cew & others		213.0	1.60	47.5	2.00	2.5	183.60
Minnesota	Gh, Cw		3,166.0	2.80	5.0	2.50	5.0	48.50
Nebraska	Blb, Wg, Mbb, Gcw		722.0	0.50	25.0	3.10	5.0	45.00
See Legend IV				Total		2,063.90		3,558.90

LEGEND IV - SOYBEAN PEST COMPLEX

Blb - Bean leaf beetle
Blw - Bollworms
Cw - Cutworms
Cew - Corn earworm

Gcw - Green cloverworm
Gh - Grasshoppers
Mbb - Mexican bean beetle
Sb - Stink bugs
Sm - Spider mites

T - Thrips
Tcah - Three-cornered alfalfa hopper
Wg - White grubs

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Dollar Loss (1000)
				Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)	
COTTON				lbs.					
Arizona		M, Fh, Pbw, Bwc & others	339.0	219.0	80.0	5,245.60	12.00	240.0	8,125.60
Arkansas		Bw, Blw, T, M & others	1,195.0	208.0	5.7	336.70	10.40	692.0	7,533.50
New Mexico		Pbw, Blw, Ca, Fh & others	176.0	192.0	23.0	1,501.40	4.00	2.0	1,509.40
Oklahoma		Blw, Bw, Fh	555.0	73.0	183.4	6,141.13	9.51	144.0	7,511.31
Texas		A, Sm, T, Fh & others	5,565.0	102.0	1,000.0	29,470.00	6.00	3,410.0	49,930.00
See Legend V				Total		42,694.83		31,914.98	74,609.81

LEGEND V - COTTON PEST COMPLEX

A - Aphids
Blw - Bollworms
Bw - Boll weevil

Bwc - Boll weevil complex
Ca - Cotton aphid
Fh - Fleahoppers
M - Mites

Pbw - Pink bollworm
Sm - Spider mites
T - Thrips

TOBACCO				lbs.					
Maryland		Gpa, Fb, Hw, Bw	33.5	230.0	7.5	1,087.50	10.00	26.0	1,347.50
See Legend VI				Total		1,087.50		260.00	1,347.50

LEGEND VI - TOBACCO PEST COMPLEX

Bw - Budworms
Fb - Flea beetles
Gpa - Green peach aphid
Hw - Hornworms

SUGARBEETS									
Colorado		Sch, Gs, Sbrm, Bww & others	180.0	0.42	24.0	120.20	3.00	25.8	197.70
Minnesota		Ww, Cw, Lm	122.7	-	-	-	3.00	18.0	54.00
Nebraska		Ww, Lh, Gh, Fb,	66.5	1.62	13.0	273.80	3.45	27.0	313.00

Crop	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Dollar Loss (1000)
			Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)	
State								
SUGARBEETS (Continued)			tons					
Wyoming	Al, Bww, Sbrm, Blh	53.2	0.32	3.7	15.20	4.50	1.6	22.30
See Legend VII			Total		409.20		177.80	587.00

LEGEND VII - SUGARBEET PEST COMPLEX

Al - Alfalfa looper
Blh - Beet leafhopper
Bww - Beet webworm

Cw - Cutworms
Fb - Flea beetles
Gh - Grasshoppers
Gs - Garden symphylan

Lh - Leafhoppers
Lm - Leaf miners
Sbrm - Sugar-beet root maggot
Ww - Webworms

POTATOES		cwt.					
Arizona	Pp, Lh, Ww, Cw	11.0	2.0	351.10	8.00	9.0	23.10
Colorado	Aw, Vcw, Fb, Gpa & others	58.0	-	-	4.00	48.8	150.40
Minnesota	Ww, Plh, Fb & others	94.2	27.2	621.80	8.00	67.0	1,157.80
Nebraska	Pp, Fb, Ww, Cpb & others	10.9	1.0	44.90	6.20	8.5	97.60
Wisconsin	Plh, Si	58.5	8.0	1,678.40	12.00	50.0	2,278.40
Wyoming	Pp, Fb, Cpb	3.6	3.5	2.80	5.00	2.6	16.00
See Legend VIII		Subtotal		2,699.00	1,424.30		

TOMATOES		tons					
Colorado	Thw, Tfw, Tp, Blh	2.0	-	1.70	3.00	2.0	7.70
Maryland	Fb, Cw, Cpb, Hw	6.7	2.1	208.53	10.00	4.6	254.53
See Legend VIII		Subtotal		210.23	52.00		
		Total		2,909.23	1,476.30		

LEGEND VIII - POTATO PEST COMPLEX

Aw - Armyworms
Blh - Beet leafhopper
Cpb - Colorado potato beetle
Cw - Cutworms
Fb - Flea beetles

Gpa - Green peach aphid
Hw - Hornworms
Lh - Leafhoppers
Plh - Potato leafhopper
Pp - Potato psyllid
Si - Soil insects

Tfw - Tomato fruitworm
Thw - Tomato hornworm
Tp - Tomato psyllid
Vcw - Variegated cutworm
Ww - Wireworms

Crop	Pest Complex	State	Total Acres Produced (1000)	Yield Loss		Subtotal (\$1000)	Control Cost			Total Dollar Loss (1000)
				Loss Per Acre	Nontreated Acres (1000)		Cost Per Acre	Treated Acres (1000)	Subtotal (\$1000)	
BEANS (Dry)										
Colorado	Mbb, Fb, T, M		230.0	cwt. 0.02	2.5	0.38	3.00	4.6	13.70	14.08
Nebraska	Wbcw, Mbb, Gh, Lh & others		80.0	1.8	25.0	351.00	3.40	25.0	85.00	436.00
Wyoming	Mbb, Fb, Lb		47.0	0.31	1.2	3.10	3.50	0.5	1.80	4.90
	See Legend IX				Subtotal	354.48			100.50	454.98
BEANS (Snap)										
Wisconsin	Pl, Lb, Scm		36.3	tons 0.69	-	-	3.00	20.0	60.00	60.00
	See Legend IX				Subtotal				60.00	60.00
BEANS (Lima)										
Wisconsin	Pl, Lb		4.8	0.29	-	-	3.00	4.4	13.40	13.40
	See Legend IX				Subtotal				13.40	13.40
PEAS (Canning)										
Minnesota	Pa		56.9	-	-	-	3.50	11.1	38.90	38.90
Wisconsin	Pa, Aw		124.7	0.13	-	-	2.00	12.7	25.40	25.40
				Subtotal					64.30	64.30
				Total		354.48			238.20	592.68
LEGEND IX - BEANS PEST COMPLEX										
	Aw - Armyworms Fb - Flea beetles Gh - Grasshoppers Lb - Lygus bugs			Lh - Leafhoppers M - Mites Mbb - Mexican bean beetle Pa - Pea aphid			Pl - Potato leafhopper Scm - Seed-corn maggot T - Thrips Wbcw - Western bean cutworm			
CABBAGE										
Colorado	Cl, Al, A, Icw		1.7	tons 1.00	-	-	6.00	1.7	10.20	10.20
Wisconsin	Cm, Icw, Ca		6.2	0.15	-	-	25.00	6.2	155.00	155.00
	See Legend X				Subtotal				165.20	165.20

Crop	State	Pest Complex	Total Acres Produced (1000)	Loss Per Acre	Yield Loss		Control Cost			Total Dollar Loss (1000)
					Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)	Subtotal (\$1000)		
CAULIFLOWER										
Wisconsin	Icw		0.3	cwt. 56.0	-	-	20.00	0.3	6.40	6.40
Subtotal										
6.40										
CUCUMBERS										
Wisconsin	Scb		13.8	tons 0.16	-	-	3.00	12.0	36.00	36.00
Subtotal										
36.00										
VEGETABLES & MELONS.										
Arizona	Fb, Aw, M, Cl & others		86.6	cwt. 32.0	12.0	1,920.00	15.00	72.0	1,050.00	2,970.00
Subtotal										
1,920.00										
2,970.00										
CARROTS										
Wisconsin	Sslh		3.2	cwt. 197.5	-	-	9.00	3.2	28.80	28.80
Subtotal										
28.80										
LETTUCE										
Colorado	Cl, Al		7.0	cwt. 8.0	-	-	6.00	7.0	42.00	42.00
Wisconsin	Sslh		2.5	100.0	0.5	255.00	9.00	2.0	18.00	273.00
Subtotal										
255.00										
315.00										
ONIONS										
Colorado	Ot, Om, Cw		5.8	cwt. 5.1	0.6	6.63	5.00	4.7	23.75	30.38
Wisconsin	Om, T		1.9	88.5	-	-	8.00	1.0	8.00	8.00
Subtotal										
6.63										
31.75										
38.38										
Total										
1,378.15										
3,559.78										

LEGEND X - VEGETABLE PEST COMPLEX

A - Aphids	Cm - Cabbage maggot	Om - Onion maggot
Al - Alfalfa looper	Cw - Cutworms	Ot - Onion thrips
Aw - Armyworms	Fb - Flea beetles	Stcb - Striped cucumber beetle
Ca - Cabbage aphid	Icw - Imported cabbageworm	Sslh - Six-spotted leafhopper
Cl - Cabbage looper	M - Mites	T - Thrips

Crop	Pest Complex	State	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Dollar Loss (1000)	
				Loss Per Acre	Nontreated Acres (1000)	Subtotal (\$1000)	Cost Per Acre	Treated Acres (1000)		Subtotal (\$1000)
APPLES										
Colorado	Cm, Sm, Raa, Waa		5.31	15.06	0.1	3.31	20.00	5.2	104.00	107.31
Delaware	M, Cm, Pc, Rblr		0.93	-	-	-	36.00	0.9	33.30	33.30
Maryland	Cm, Pc, A, Sm		1,450.00 bu.	-	-	-	0.30/bu.	-	435.00	435.00
Minnesota	Am, Cm, C, M		2.00	-	-	-	150.00	2.0	300.00	300.00
Virginia	Cm, A, M, Pc		10,400.00 bu.	-	-	-	.20/bu.	-	2,080.00	2,080.00
Wisconsin	Am, Cm		7.18	190.00	-	-	110.00	7.2	790.24	790.24
See Legend XI			Subtotal		3.31		3,745.54		3,745.85	
PEACHES										
Colorado	Lb, Ofm, Ptb, M		5.00	3.1	0.1	0.82	12.00	4.9	58.42	59.24
See Legend XI			Subtotal		0.82		58.42		59.24	
PEARS										
Colorado	Cm, Sm, Ps		1.03	bu.	-	-	16.00	1.0	16.40	16.40
See Legend XI			Total		4.13		3,817.36		3,821.49	
			Grand Total		119,320.50		81,119.03		241,037.40	

LEGEND XI - DECIDUOUS FRUIT PEST COMPLEX

A - Aphids	M - Mites	Raa - Rosy apple aphid
Am - Apple maggot	Ofm - Oriental fruit moth	Rblr - Red-banded leaf roller
C - Curculios	Pc - Plum curculio	Sm - Spider mites
Cm - Codling moth	Ps - Pear-slug	Waa - Woolly apple aphid
Lb - Lygus bugs	Ptb - Peach twig borer	

Weather continued from page 986.

WEATHER OF THE WEEK ENDING OCTOBER 17

HIGHLIGHTS: A major cold air outbreak and a severe blizzard brought an end to Indian summer over much of the Nation and announced the approach of winter. A tornado virtually destroyed a town in Iowa.

PRECIPITATION: A major storm developed over southeastern Montana late Tuesday and by midnight Wednesday was centered over north central Nebraska. Heavy snow fell in the Wyoming and Colorado Rockies, accumulating to 18 inches in some localities. Ski resorts near Salt Lake City, Utah, welcomed 16 inches of snow but northerly winds east of the Continental Divide drifted the snow badly, causing considerable inconvenience and hardship. Seven persons lost their lives in the severe storm. As the storm center moved eastward across Iowa, a cold front trailed southward to Texas. The clash of polar air following the front with the tropical gulf air ahead of it set off severe thunderstorms and tornadoes. Winds gusted to 80 m.p.h. at Austin, Texas, to 70 m.p.h. at Winona, Minnesota, and from 50 to 60 m.p.h. from South Dakota to the Texas Panhandle. Baseball-sized hail fell near Rochester, Minnesota, and near Aldrich, Missouri. Smaller hail was reported at numerous locations from Minnesota to Michigan and southward to Missouri and Illinois. Vicious tornadoes occurred in Minnesota, Iowa, and Missouri. The worst of these practically wiped out the town of Belmond, Iowa, on Friday afternoon. It killed 6 persons and injured 172, destroying 119 buildings and causing major damage to 160 and minor damage to 308. About 550 families suffered in some way from this visit of the most destructive late-season tornado ever to occur in the State. Significant rains fell along the northern Pacific coast, Texas upper coast, coastal Louisiana, the middle eastern coast of Florida, over a few spots in the Northeast, and in the lower Rio Grande Valley.

TEMPERATURE: During the first part of the week, southerly winds brought warm, moist gulf air northward over the central Great Plains, with temperatures reaching the 80's and 90's as far north as Nebraska and Iowa. A cold front extended southward west of this stream of warm, moist air. Behind the front northerly winds (gusting to 60 m.p.h. at Cheyenne, Wyoming) tumbled the temperatures 40° or more in some areas. The coldest air mass of the season plunged southward, bringing freezing temperatures to the higher portions of California, central Arizona, central New Mexico, and the High Plains of Texas. Temperatures dropped to near zero in the Wyoming and Colorado Rockies. Some of the coldest temperatures of the week included 6° below zero at Farson, Wyoming, and 5° below zero at Fraser, Colorado. Temperatures averaged below normal from the Pacific Ocean to Lake Michigan in the north and to the Appalachians in the south. From Indiana eastward to the Atlantic Ocean and east of the southern Appalachians, temperatures averaged slightly above normal. In Ohio and vicinity, temperatures averaged above normal for the first time in 6 weeks. (Summary supplied by Environmental Data Service, ESSA).

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20782

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

OFFICIAL BUSINESS

UN02024 ALO3001BB2PI 4SB 0001
USDA NAT AGR LIB BELTSVILLE
BR
PLANT INDUS STA
BELTSVILLE MD 20705

